From:	"Coffey, Scott" <CoffeySE@cdmsmith.com>
To:	"Zhen, Davis" <Zhen.Davis@epa.gov> "Sheldrake, Sean" <sheldrake.sean@epa.gov> younghs@cdmsmith.com "John Kern" (b) (6)
CC:	"Silvertooth, Jason R." <silvertoothjr@cdmsmith.com> "Trump, Julee M." <trumpjm@cdmsmith.com>
Date:	4/21/2018 8:18:12 AM
Subject:	FW: Surface Sediment Recovery Depths - Response to EPA 4.20.18
Attachments:	image001.jpg image002.jpg ATT00001.htm ATT00002.htm 4_Figure 1_PH_RIDebris_SampleLocations_042018.pdf ATT00003.htm 3_RI GrabSampleDepths_Histograms_20190418_toEPA.XLSX ATT00004.htm 1_Surface Sampling Recovery Less20cm 042018_toEPA.pdf ATT00005.htm 2_Decison Flow Chart Surface Grabs_042018_toEPA.PDF ATT00006.htm

My initial thoughts:

Finally good to receive this information from them. 10% of samples where this occurs seems pretty low, but they're not done yet. The take home lesson for them that I don't think they understand is that they need to provide information like this to us sooner (especially when we ask for it) so we can review the complete field information and avoid getting into threatening Shut Down situations to get them to produce this info. I'm sure they have been collecting this info in this format all along. According to my records, we asked them for this information on Wednesday April 11th and it took them until April 20th to provide it – too long.

I don't see any difference in their new approach (presented in their complicated flow chart) with what they've been doing all along, except that now (if approved) they will be allowed to keep and analyze a composite sample that has grabs <20cm.

Even at 10%, the EPA approach provides a comparison and data for statistical evaluation of the potential bias between samples at a primary location that have grabs less than 20cm with a sample that meets the criteria. Granted, this is an additional step, but one that has arisen due to some locations (despite the tools' robustness) it is not able to penetrate in hard sediment. My understanding from John's emails is that the additional sample collection in these areas will allow us to evaluate if an equipment bias is introduced in these areas. The Pre-RD Group doesn't seem to understand this objective yet.

That's my initial thoughts.

Scott

From: Zhen, Davis <Zhen.Davis@epa.gov>
Sent: Friday, April 20, 2018 6:48 PM
To: Sheldrake, Sean <sheldrake.sean@epa.gov>; Coffey, Scott <CoffeySE@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Trump, Julee M. <trumpjm@cdmsmith.com>

Subject: Fwd: Surface Sediment Recovery Depths - Response to EPA 4.20.18

FYI

Thanks,

Sent from my iPhone, please excuse typos
****
Davis Zhen, Manager
Environmental Cleanup Unit 2
Office of Environmental Cleanup
1200 Sixth Avenue Suite 900
M/S ECL – 122, Seattle, WA 98101
Tel: (206) 553-7660
Cell: (206) 437-5826
****

Begin forwarded message:

> From: Anne Fitzpatrick <AFitzpatrick@Geosyntec.com>
> Date: April 20, 2018 at 6:06:11 PM PDT
> To: "Zhen, Davis" <Zhen.Davis@epa.gov>, "Tyrrell, Ken" <ken.tyrrell@aecom.com>
> Subject: Surface Sediment Recovery Depths - Response to EPA 4.20.18
>
> Dear Davis,
> On behalf of Pre-RD Project Coordinator Ken Tyrell (who is on a plane) I am sending this email on behalf of the technical team regarding surface sediment sampling and recovery depths. The attached materials are in response to the EPA's correspondence dated April 12, 2018, and our discussions earlier today by phone. Thanks for sending the diagram outlining Bowl 1 and Bowl 2 protocols for grab sampling; we have not had time to digest this graphic. However, we've asked the field crew to prioritize stations over the weekend where > 20 cm recovery is easily expected. Four attachments (based on earlier discussions today) include:
>
> - Draft Decision Flow Chart for modifying the FSP sampling protocol based on difficult sample recovery conditions
> - Summary table of the 13 PDI locations not obtaining 20 cm recovery depth, notes on # of attempts made, and depth of recovery
> - Summary of LWG RI depth recoveries for surface samples with recovery
> - Figure presenting the 13 PDI locations (< 20 cm depth) compared to RI/FS Existing Debris within the Study Area
>
> Discussion
> 1. The Decision Flow Chart (and Narrative on page 2) describes a step-by-step procedure for the Field Team to efficiently collect composite samples, especially in areas with refusal (jaws don't close, or no sediment in the grab) and difficult/poor recovery (less than 10 cm) after multiple grabs.
>   a. Clarifies a target depth goal of >20 cm at the primary location
>   b. Clarifies a minimum acceptable average depth of 10 cm or greater
>   c. We are balancing the desire to achieve >20 cm sample depths with the time/effort expended collecting multiple grabs and moving from Primary to Alternate 1 to Alternate 2 locations (max about 10 attempts per grid location). We are trying to achieve the goal of obtaining samples from the primary locations.
> 2. To date, we have accepted 13 locations with substation samples below the target 20 cm (~10% of the data collected so far); most of these depths were between 10 and 19 cm (See Surface Sampling Recovery Summary table). Several attempts were made at each station to obtain better samples and the field notes documented difficult conditions including refusal debris, rocks, logs, and riprap in many of the grabs, or hardpan/minimal sediment. One sample location, PDI-SG-055-

2. BL1, is only a 2-point composite because of refusal. We believe these samples are representative of site conditions and are acceptable for use. We are working on a more detailed table showing sample recoveries – will send next week.

3. A query of existing RI surface sediment grab data show that 35% of the surface sediment samples collected for the RI were < 30 cm, but 0% were less than 10 cm (see attached histogram graphs and scatterplots).
    a. In addition, we looked at the 2012 Draft RI/FS Debris Figure (Figure 2.1-5) – a lot of debris was noted in the vicinity of these PDI locations.
    b. RI grab samples in close proximity to our PDI samples typically recovered sediment between 20 and 30 cm, however these were typically located in deeper water compared to our samples, and not 3-point composites. We are uncertain if these RI locations were original locations or moved due to site conditions/refusal. Many of the difficult conditions we encountered are in the nearshore areas. Changing the field equipment or methods will not resolve the issues/conditions that we are encountering; a power grab is already being used with 1000 ft/lbs of closing force, and field crews are actively changing the weights to improve the penetration. *A couple of photos attached below.*
4. A figure showing the 13 PDI locations that accepted a substation sample below the target 20 cm and the RI debris map. The stations are well distributed through the site, and mostly in nearshore areas where debris was noted during the RI.

Based on the information provided above, we are (i) proceeding to run all 13 samples for chemical testing and (ii) implementing the Decision Flow Chart for field staff. Although the collection depths were below the 20cm target depth described in the FS we believe these are acceptable for use. The average recovery depth is > 10 cm, and is consistent with Section 1.2 of the FSP that allows for collection of samples with lesser depth under certain conditions such as those encountered. Excerpted below:

> *Surface sediment will be collected from a target depth of 0- to 30-centimeter depths, consistent with the RI (Integral 2004). A minimum depth of 10 centimeters will be considered acceptable (especially if sampling on a sediment cap).*

We can set up a conference call with your technical team early next week to discuss/walk through our analysis and path forward.

Have a great weekend.
Regards,
Anne